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WRITING PASTE

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No drawing

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This invention relates to writing materials, such as inks, dyes or the like, and more particularly to highly viscous or pasty compositions containing inks or dyes and adapted for use in fountain pens of the type having at its writing end a spherical ball rotatably mounted within an inclosure at the free end of a support having an internal longitudinal opening in communication with a reservoir for the paste located within the hollow barrel of the fountain pen or the like.

The writing pastes known prior to my invention are generally unsatisfactory and cause trouble with the pen as the properties required of such pasty writing materials are such that when enclosed in the pen they should remain viscous enough to ooze or be forced toward the writing ball, and yet while being deposited on the writing surface in the act of writing should dry with considerable rapidity. Writing pastes known prior to my invention have been such as to lead to the clogging of the ball in its inclosure owing to the drying of the paste on the exposed surface of the ball and in the gap between the ball and the wall of its inclosure. Such writing pastes as known prior to my invention have lacked the property of remaining at a sufficiently low viscosity for considerable periods of time on exposure to air as to ensure that the ball can at all times turn freely so as to convey the writing paste properly to the writing surface, and not only write satisfactorily and efficiently but at the same time prevent the ball from clogging up, thus rendering the writing operation either impossible or unsatisfactory. My new writing paste fulfills two apparently contradictory conditions as regards its humidity content in that it enables satisfactory and continuous operation of the pen when desired and at the same time produces a satisfactory, quick drying of the writing on the paper.

In accordance with my invention the difficulties referred to above have been overcome and the desirable qualities accomplished by making the paste, aside from the ink or dye, of two components, one of which is a sticky rapidly drying material and the other a non-drying and preferably hygroscopic substance. In my invention these two materials are such that they can readily be separated by physical means as, for example, by absorption into the writing surface, but will when exposed to air on a non-absorptive surface remain in their original pasty condition so that the writing ball will at all times be surrounded by a sufficiently fluid paste to enable proper delivery of the paste during writing, and will also enable the rapid drying of that portion of the writing material on the

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paper which has not been absorbed by the paper.

By selecting as the drying component a material which is not absorbed by the writing paper or the like, and for the non-drying component a substance readily absorbed by such writing surfaces, the components will when the paste is deposited on said surfaces in the act of writing become rapidly separated, the non-absorbing rapidly drying component remaining exposed to the air on the writing surface for quick drying, and the non-drying component absorbed into the material of the writing paper or the like. The sticky or tacky drying material may consist, for example, of a glue or any polysaccharide, and the non-drying substance may be composed of a cholesterized oil or, for example, glycerine. In general, it has been found convenient to use for the non-drying material a fatty or fat-like substance which shall at least have the properties of the fatty or greasy bodies, as I have found that such materials not only act as lubricants for the ball but satisfactorily fulfil all of the other requirements of a writing paste according to the present invention.

Purely by way of example and without limiting myself to the specific ingredients named, the writing paste may be prepared by mixing a powdered aniline dye with glycerine in approximately equal proportions, and adding to this mixture from 35 per cent to 40 per cent of tacky dextrine obtained by mixing powdered dextrine with water and heating the resulting mixture. Other ingredients may be added to the paste so obtained as desired. For example, I may add a small amount of acetic acid to brighten the colour and serve as a preservative for the paste; or, if desired, carbolic acid may be added as a preservative. Phenolic Acid

As the coloured liquid forms with the dextrine merely a mechanical mixture, the non-drying vehicle may be readily separated from the mass by absorption into the fibrous material of the writing paper, thus allowing the dextrine to become set on the surface thereof.

From the above it will be seen that in accordance with my invention I have provided an improved writing paste suitable for use in a ball pointed fountain pen of the type referred to, while remaining sufficiently liquid on exposure to air at the surface of the ball and yet drying rapidly when applied to an absorbent writing surface.

While I have described above a satisfactory writing paste, I wish it understood that the same is susceptible of modification and change within certain limits without departing from the spirit of my invention. The embodiments of the inven-

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tion in which an exclusive [illegible] or privilege is claimed are defined as follows:

1. A writing paste adapted to be used in ball pointed fountain pens, consisting of a mixture comprising approximately equal proportions of aniline dye and glycerine, and from 35 to 40 per cent of tacky dextrine obtained by mixing powdered dextrine with water and heating the mixture, whereby the glycerine will act as a lubricant for the ball and maintain the writing paste moist at the surface of the ball to effect good writing and enable the use of the fountain pen for long periods of time from a single filling.

2. A writing paste for ball pointed fountain pens, consisting of a mixture comprising approximately equal proportions of powdered aniline dye and glycerine from 35 to 40 per cent of tacky dextrine obtained by mixing powdered dextrine with water and heating, and a small amount of acetic acid.

3. A writing paste adapted to be used in ball pointed fountain pens, comprising a mixture of powdered aniline dye with glycerine in approximately equal proportions, tacky dextrine in an

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amount ranging from 35 to 40 per cent which has been obtained from heated powdered dextrine and water, and acetic acid to brighten the colour and serve as a preservative for the paste, whereby to provide a writing paste in which when writing the glycerine will be separated from the mass by quick absorption into the fibrous material of the writing paper, and the dextrine becomes set upon the surface of the paper, the glycerine acting as a lubricant for the ball.

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